

# Population Trends in Bournemouth

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## Key Facts

- ⇒ Bournemouth has a resident population of 183,500 of which approximately 66.8% are of working age<sup>1</sup>
- ⇒ 122,600 people or 66.8% are of working age compared to 62.8% in South West and 64.6% in England & Wales
- ⇒ 15.4% (28,300) of Bournemouth's population are aged 0-15 compared to 18.8% in England & Wales
- ⇒ 17.8% (32,600) are of retirement age compared to 16.5% in England & Wales
- ⇒ There were 2,337 live births in Bournemouth in 2011 and 1,908 deaths
- ⇒ Net internal migration to Bournemouth in 2010-11 led to 900 additional residents
- ⇒ Trend-based interim short-term population projections suggest Bournemouth's population will increase to 201,200 by 2021

This report aims to explain past and future population trends in Bournemouth. It provides information using various sources of demographic data and provides details of the drivers of population change locally.

## Population Estimates

1.1 The Office for National Statistics (ONS) produce estimates from national level down to Local Authority and Primary Care Trust (PCT) on an annual basis. The estimates are by age and gender. A cohort component model takes the population resident on 30<sup>th</sup> June the previous year by single year of age and gender and ages on each individual by a year. Those who have been born in the previous 12-month period are added on and those who have died are removed according to their age and gender. International migrants and internal migrants (movements within the UK) are added or removed (depending on whether they have moved to, or left the area) again according to age and gender. Population estimates use the most recent census, in this case the 2011 Census, as a starting point for the estimates. The latest available estimate is usually a year old e.g. the latest Mid-Year Estimate released September 2012 is for Mid-2011<sup>2</sup>.

<sup>1</sup> Working age is defined as 16-64 yrs old for both males and females

<sup>2</sup> The Mid-2002 to Mid-2010 Estimates will be revised in line with the 2011 Census results (release March/April 2013)

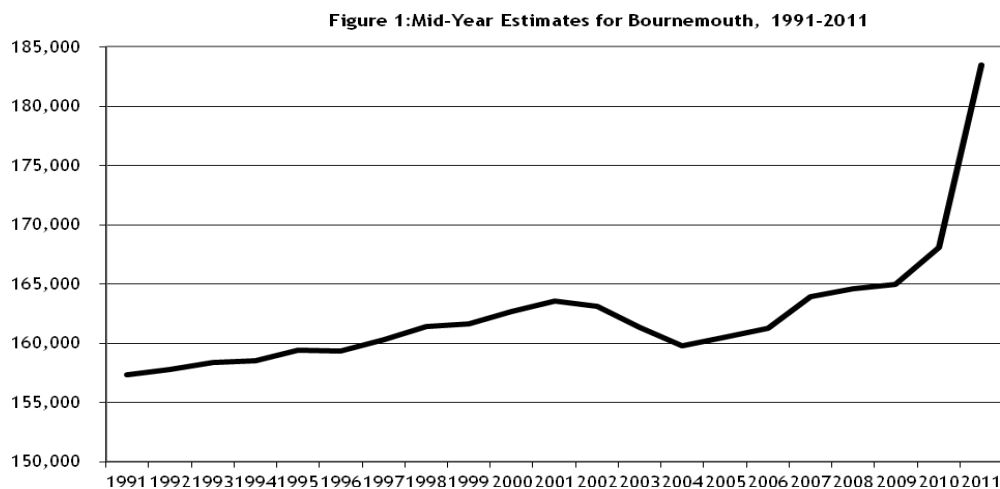
Table 1: Mid-Year Estimate-2012

	Persons ('000s)	Males ('000s)	Females ('000s)
Bournemouth	183.5	91.6	91.9
Poole	148.1	72.4	75.6
Dorset	413.8	201.7	212.1
South West	5,300.8	2,599.2	2,701.6
England & Wales	56,170.9	27,637.6	28,533.3

Source: 2011 Mid-Year Estimates, ONS, Crown Copyright

1.2 Table 1 shows the latest estimates. The Mid-2011 population estimate for Bournemouth is 183,500 and this represents an increase of 9.2% compared with the Mid-2010 estimate. **However it should be noted that ONS will revise the Mid-2002 to Mid-2010 population estimates to take account of the 2011 Census estimates.** As a result the dramatic increase between 2010 and 2011 is likely to be spread across the inter-censal period. The black line on Figure 1 below shows Mid-Year Estimates since 1991 and shows that between 2002 and 2004 the population in Bournemouth declined but has since increased again. The decline between 2002 and 2004 can be explained by changes to the methodology applied by ONS relating to the redistribution of international migrants. Further amendments have been made by ONS and as a result the estimates for 2002-2008 have been revised again. Figure 1 reflects all these changes.

Figure 1: Mid-Year estimates for Bournemouth 1991 - 2011



Source: Mid-Year Estimates, ONS, Crown Copyright

Table 2: Mid-Year Estimates for Bournemouth by Age, 2011

	Persons	%	Males	%	Females	%
All Ages	183,500		91,600		91,900	
0	2,200	1.2%	1,100	1.2%	1,100	1.2%
1-4	8,100	4.4%	4,100	4.5%	4,000	4.4%
5-9	8,000	4.4%	4,100	4.5%	3,900	4.2%
10-14	8,300	4.5%	4,300	4.7%	4,000	4.4%
15-19	10,800	5.9%	5,400	5.9%	5,400	5.9%
20-24	17,300	9.4%	8,700	9.5%	8,600	9.4%
25-29	14,800	8.1%	7,400	8.1%	7,400	8.1%
30-34	14,500	7.9%	7,700	8.4%	6,800	7.4%
35-39	12,400	6.8%	6,600	7.2%	5,700	6.2%
40-44	12,400	6.8%	6,600	7.2%	5,800	6.3%
45-49	12,300	6.7%	6,400	7.0%	5,900	6.4%
50-54	10,400	5.7%	5,300	5.8%	5,100	5.5%
55-59	9,200	5.0%	4,600	5.0%	4,600	5.0%
60-64	10,100	5.5%	5,000	5.5%	5,100	5.5%
65-69	8,300	4.5%	4,100	4.5%	4,200	4.6%
70-74	6,600	3.6%	3,200	3.5%	3,400	3.7%
75-79	6,100	3.3%	2,700	2.9%	3,400	3.7%
80-84	5,400	2.9%	2,200	2.4%	3,200	3.5%
85-89	3,800	2.1%	1,400	1.5%	2,400	2.6%
90+	2,300	1.3%	700	0.8%	1,700	1.8%

Source: Mid-Year Estimate, ONS, Crown Copyright

Table 3: Ward Population Estimates, 2011

	0-15	16-64	65+	Total
Boscombe East	1,900	7,600	1,500	11,000
Boscombe West	1,200	7,300	1,300	9,800
Central	800	8,500	1,600	10,900
East Cliff and Springbourne	1,900	9,000	1,900	12,800
East Southbourne and	1,200	5,000	3,000	9,200
Kinson North	1,800	5,900	2,200	9,900
Kinson South	2,000	6,200	1,800	10,000
Littledown and Iford	1,700	6,100	1,900	9,700
Moordown	1,900	6,800	1,400	10,200
Queen's Park	1,800	8,600	1,500	11,800
Redhill and Northbourne	1,600	5,900	2,200	9,700
Strouden Park	1,900	5,800	2,000	9,700
Talbot and Branksome	1,100	6,100	1,900	9,100
Throop and Muscliff	1,900	5,600	1,500	8,900
Wallisdown and Winton	1,700	7,000	1,700	10,400
West Southbourne	1,700	6,000	1,700	9,400
Westbourne and West Cliff	800	6,800	2,600	10,200
Winton East	1,600	8,400	900	10,900

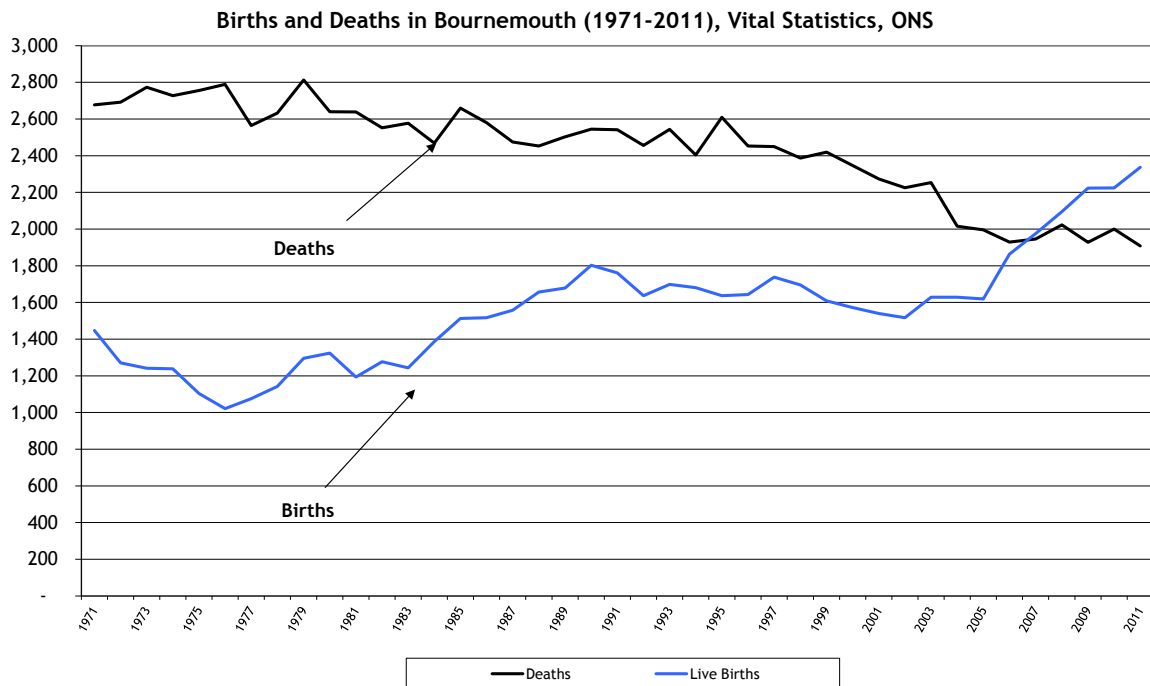
Ward Estimates using 2011 FHSA data constrained to 2011 Mid-Year Estimates

Figures may not sum due to rounding

Source: FHSA & ONS, 2011

- 1.3 Table 3 provides an estimate of ward population based on GP records constrained to Bournemouth ONS estimates for 2011. The population is provided for children, the working age population and the retirement aged population.
- 1.4 In Bournemouth, for many years, deaths have exceeded births so, if it were not for migrants moving to the area, the population would have declined. Figure 2 illustrates the reversal of this trend in 2007 which has continued through to 2011. In 2011 births exceeded deaths by 429.

Figure 2: Births and Deaths in Bournemouth 1971 to 2011



Source: Vital Statistics, ONS, Crown Copyright

1.5 Despite the excess of births over deaths in 2011, much of the population growth in the borough over the last few years has been due to people moving to the area. Migrants comprise international migrants (moving from overseas) and internal migrants (moving from elsewhere in the UK). International migration is probably the most difficult statistic to calculate in population estimates and projections. Currently, the patterns of international migration are based on data taken from the ‘International Passenger Survey’, a national sample survey. Although, at national level, the sample survey may be fairly reliable, once this data is disaggregated to local authority level the sample size is quite small. A statistical model is used to increase reliability. As yet there is no data available for 2010-11.

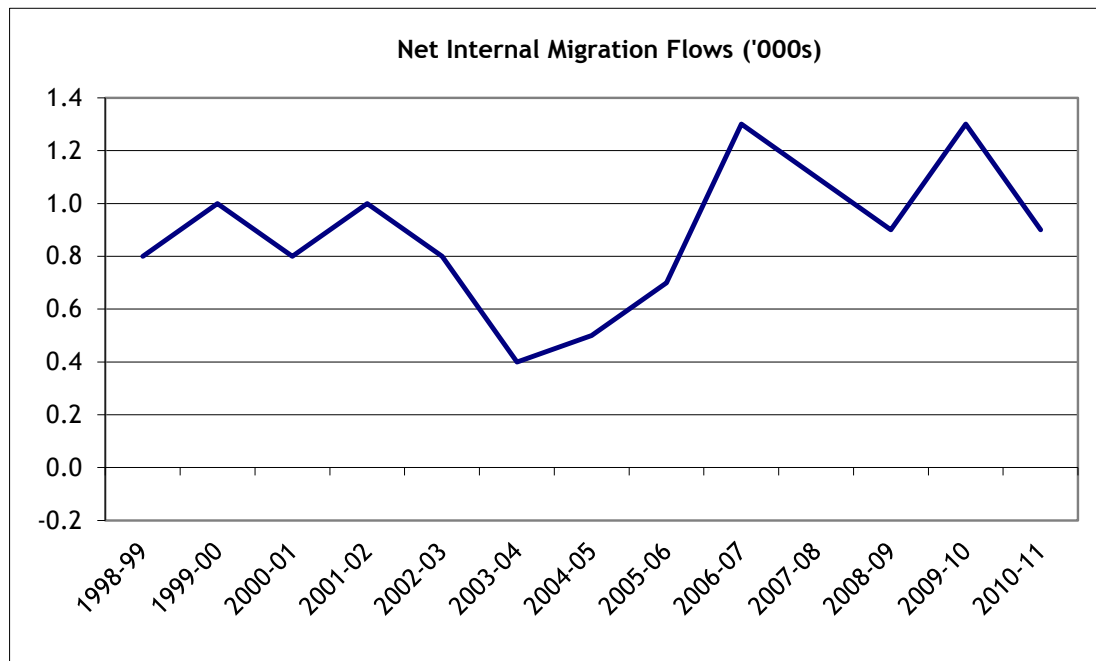
1.6 In addition, population estimates do not include people who intend to stay for less than a year. The 2011 Census reveals that there were 1,438 short-term migrants at the time of the census. A short-term migrant is defined in the census as one who stays for more than three months and less than a year. This is much lower than previous experimental estimates suggested. The ONS produced Mid-2007 estimates on short-term migrants and estimated that there were 7,800 short-term international migrants<sup>3</sup>. It is likely that further 2011 census will confirm that many of those that were previously identified by ONS as short-term migrants will have been included as usually resident as they intended to stay for more than a year. The short-term migrants

<sup>3</sup> The Mid-2007 definition of short-term migrants differs slightly from the Census definition as this defines short-term migrants as those staying for more than a month and less than a year.

are likely to include language school students as Bournemouth is one of the most popular destinations nationally for English Language courses.

1.7 Internal migration is slightly easier to measure as it is based on registrations and de-registrations from GP practices. This data is obtained from the National Health Service Central Register. The main disadvantage of this dataset is that it relies on people registering with a GP practice promptly when they move. Research has shown that men in their twenties and students tend to delay registering with a GP and therefore patterns of migration in these age groups may be slightly distorted. Figure 3 shows that the net migration has been falling since 2006/07 but has increased significantly in 2009/10. These figures have been recently revised to incorporate statistics from the Higher Education Statistics Authority (HESA) to improve the measurement of student migration. As Bournemouth is a university town this has resulted in increased net internal migration.

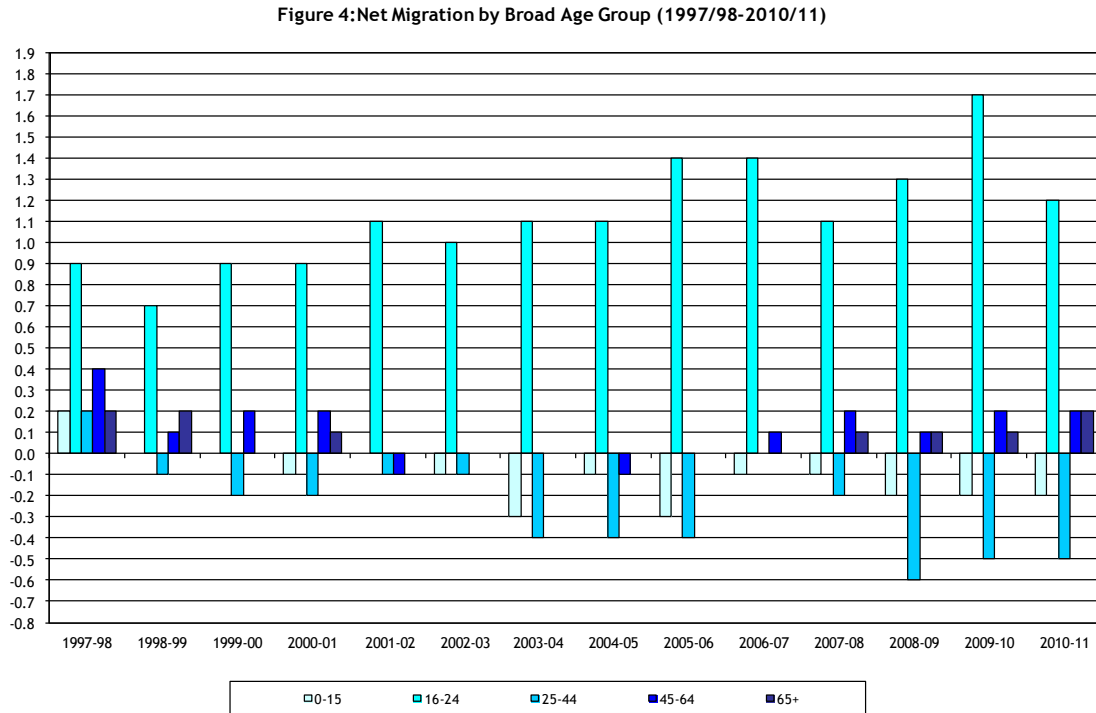
Figure 3: Net Internal Migration Flows ('000s)



Source: Internal Migration, ONS, Crown Copyright

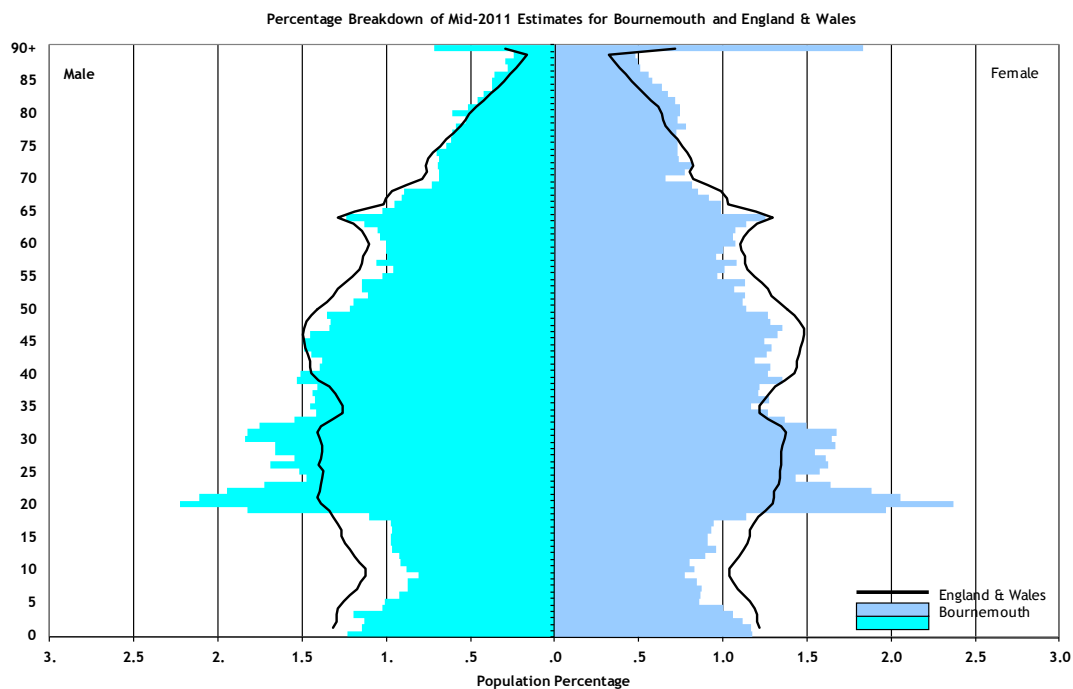
1.8 Across the broad age categories by far the largest net increase of migrants is within the 16 to 24 year olds. This is mainly due to the university; in areas without universities this age group is more likely to experience a net decrease. Contrary to popular opinion in recent years the statistics do not show a significant net increase of older people moving to Bournemouth.

Figure 4: Net Migration by Broad Age Group 1997/98 to 2010/11



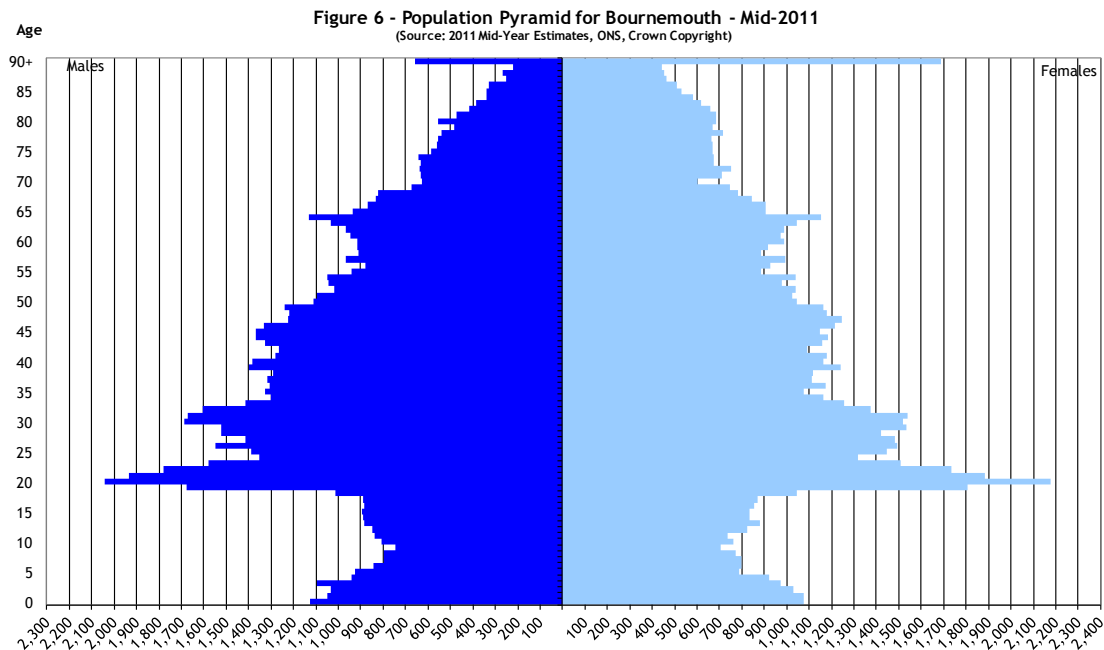
1.9 The chart below (Figure 5) compares the mid-year estimates for Bournemouth with England and Wales to illustrate the differing age profile. While Bournemouth has a smaller proportion of under-20s compared with England and Wales it has a larger proportion of student aged population and of those age over 70. Figure 6 compares the male and female population in Bournemouth and clearly shows the larger numbers of females within the over 70s age group.

Figure 5: Population Pyramid for Bournemouth and England and Wales, mid-2011



Source: Mid-Year Estimates, ONS, Crown Copyright

**Figure 6: Population Pyramid for Bournemouth, Mid-2011**



Source: Mid-Year Estimates, ONS, Crown Copyright

1.10 When examining population trends it is also useful to examine “dependency ratios”. A dependency ratio can be used as a simple measure of the numbers of children, elderly or both per 100 economically active aged persons. The higher the ratio the fewer resources there are likely to be to support those who cannot support themselves. It is usually defined as the ratio of those aged under-16 or over State Pension Age, to those aged 16 to State Pension Age. However there is no reason why we should see older people as necessarily dependant as many keep economically active beyond the traditional retirement age. It could also be argued that the definition of young people could be extended as a large proportion remain in education much longer and are, therefore, generally financially dependent on their families. In Bournemouth in 2011 there were 23 children aged 15 or less per 100 people of working age, the ratio for the retired population is 27. The overall dependency ratio is 50. The overall figure for England and Wales is 55. Another useful index is the ageing index (retirement aged population per hundred children aged 0 to 15). In the past children outnumbered the elderly and would provide significant numbers to populate the working age population. However in recent years this pattern has changed. In England and Wales the ratio is 88; in Bournemouth the ratio is higher at 115 retired per 100 under 16s.



Table 4: Dependency Ratio and Ageing Index

	<i>Dependency Ratio 0-15</i>	<i>Dependency Ratio RA+</i>	<i>Dependency Ratio Overall</i>	<i>Ageing Index</i>
Dorset Sub-region	26.6	36.8	63.4	138.6
Dorset CC	27.8	43.5	71.3	156.3
Bournemouth	23.1	26.6	49.7	115.0
Poole	27.9	33.0	61.0	118.2
Christchurch	28.5	54.5	83.0	190.9
East Dorset	27.6	49.8	77.5	180.3
North Dorset	29.5	35.9	65.5	121.6
Purbeck	29.5	41.1	65.5	151.2
West Dorset	27.4	46.3	73.7	168.8
Weymouth & Portland	26.7	33.9	60.7	126.9
South East	29.8	27.1	56.9	91.0
South West	28.0	31.4	59.4	112.3
England & Wales	29.2	25.6	54.8	87.8

Source: Mid-2011 Population Estimates, ONS

## Population Projections

- 2.0 Population projections are useful for those who need to plan for the future. Population projections may be trend-based or policy-based. Trend-based projections assume past trends will continue into the future. In the case of the ONS projections the underlying assumptions are based on recent (usually the past five years) demographic trends. At the sub-national level the ONS projections apply local fertility and mortality rates to calculate the projected number of births and deaths, an adjustment is made for local area migration into and out of the area. This process is repeated for each of the twenty-five years of the projection period. The projections are produced on a consistent basis across all local authorities in England. They do not take into account any future policy changes or local development policies that have not yet occurred, or any future changes in the components of change at the local level such as internal migration, fertility and mortality.
- 2.1 Policy-based projections will adjust projections according to a particular policy, for example projections may be produced to reflect development policies.
- 2.2 Table 5 shows the short-term ONS Interim 2011-based sub-national population projections for Bournemouth for every year until 2021. As the projections are 2011-based they are constrained to the mid-year estimate figure of 183,500. These projections are short-term interim projections produced by ONS for those urgently needing current figures

to inform the planning of healthcare, education and other services etc. As a result the projections don't incorporate all the statistical revisions that will take place in light of the 2011 Census results and instead assume a continuation of the estimated trends in fertility, mortality and migration used in the 2010-based projections.

- 2.3 Although it is recognised that this interim set of projections should be more accurate than previous projections especially in the first few years there are certain CAVEATS users should be aware of. As stated in the previous paragraph these projections assume a continuation of the estimated trends in fertility, mortality and migration used in the 2010-based projections and are constrained to the assumptions made for the 2010-based national population projections. The fertility rates will be calculated on pre-census populations. Where the female population aged 16-44 has been revised upwards (as in Bournemouth's case) the fertility rates used will be too high, and ONS have warned that "caution should be used in the application of these projections for planning purposes at the younger ages". Therefore in Bournemouth's case it is likely that the number of under-10s have been over-estimated. The ONS have also recognised that there is a possible over projection of deaths in areas where there are fewer older people counted in the 2011 Census than in previous estimates. The impact of this in Bournemouth is likely to be small as the difference between previous estimates and the Census 2011 figures for those aged 75 and over is relatively small. ONS has also had to make adjustments to some local authorities due to changes in the age structure onto which past trends have been applied. This is the case for Bournemouth where internal migration rates are based on historic trend data (that has now shown to be inaccurate). Internal migration figures have had to be adjusted to take account of the differences in the previous estimated population in certain age groups and the 2011 Census estimates with a scaling factor for internal out-migration applied.

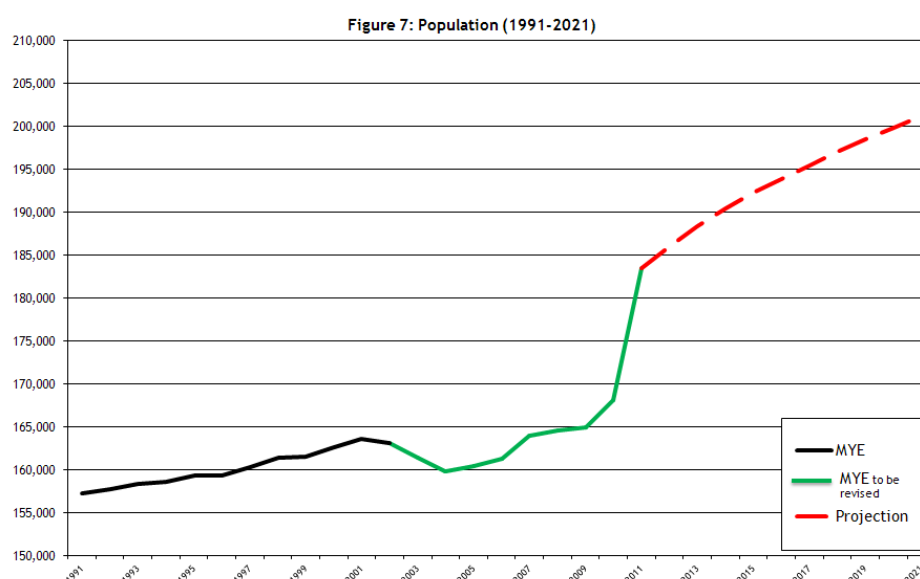
**Table 5: Interim 2011-Based Sub-National Population Projections for Bournemouth (Trend based), ONS**

Age group	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
0-4	10,300	10,900	11,400	11,900	12,300	12,700	12,800	12,700	12,700	12,600	12,500
5-9	8,000	8,300	8,700	9,100	9,400	9,600	10,100	10,500	10,900	11,300	11,700
10-14	8,300	8,000	7,800	7,700	7,700	7,800	8,200	8,500	8,800	9,100	9,300
15-19	10,800	11,100	11,200	11,200	11,100	10,900	10,600	10,400	10,200	10,200	10,300
20-24	17,300	18,700	19,700	20,500	20,800	20,900	20,800	20,800	20,600	20,300	20,000
25-29	14,800	14,400	14,400	14,300	14,400	14,800	15,300	15,600	15,900	16,000	16,000
30-34	14,500	14,900	15,200	15,100	15,000	14,800	14,700	14,700	14,800	14,900	15,300
35-39	12,400	11,900	11,800	12,000	12,400	12,800	13,200	13,400	13,300	13,300	13,200
40-44	12,400	12,300	12,100	11,900	11,700	11,300	10,900	10,800	10,900	11,200	11,600
45-49	12,300	12,400	12,400	12,200	12,000	11,900	11,800	11,600	11,400	11,200	10,900
50-54	10,400	10,700	11,000	11,400	11,800	12,100	12,200	12,200	12,000	11,800	11,700
55-59	9,200	9,400	9,600	9,600	9,900	10,200	10,500	10,800	11,100	11,500	11,800
60-64	10,100	9,600	9,300	9,200	9,000	8,900	9,100	9,300	9,300	9,600	9,900
65-69	8,300	9,100	9,400	9,600	9,600	9,600	9,100	8,800	8,700	8,600	8,500
70-74	6,600	6,600	6,800	7,000	7,400	7,800	8,600	8,900	9,100	9,200	9,100
75-79	6,100	6,100	6,000	6,100	6,100	6,000	6,000	6,200	6,400	6,700	7,200
80-84	5,400	5,400	5,300	5,300	5,200	5,100	5,100	5,100	5,200	5,200	5,100
85-89	3,800	3,700	3,700	3,700	3,800	3,900	3,900	3,900	3,900	3,900	3,900
90+	2,300	2,500	2,600	2,600	2,700	2,800	2,800	2,900	3,000	3,100	3,200
	183,500	186,100	188,400	190,500	192,300	193,900	195,500	197,000	198,500	199,800	201,200

Source: Interim 2011-based sub-national population projections, ONS, Crown Copyright

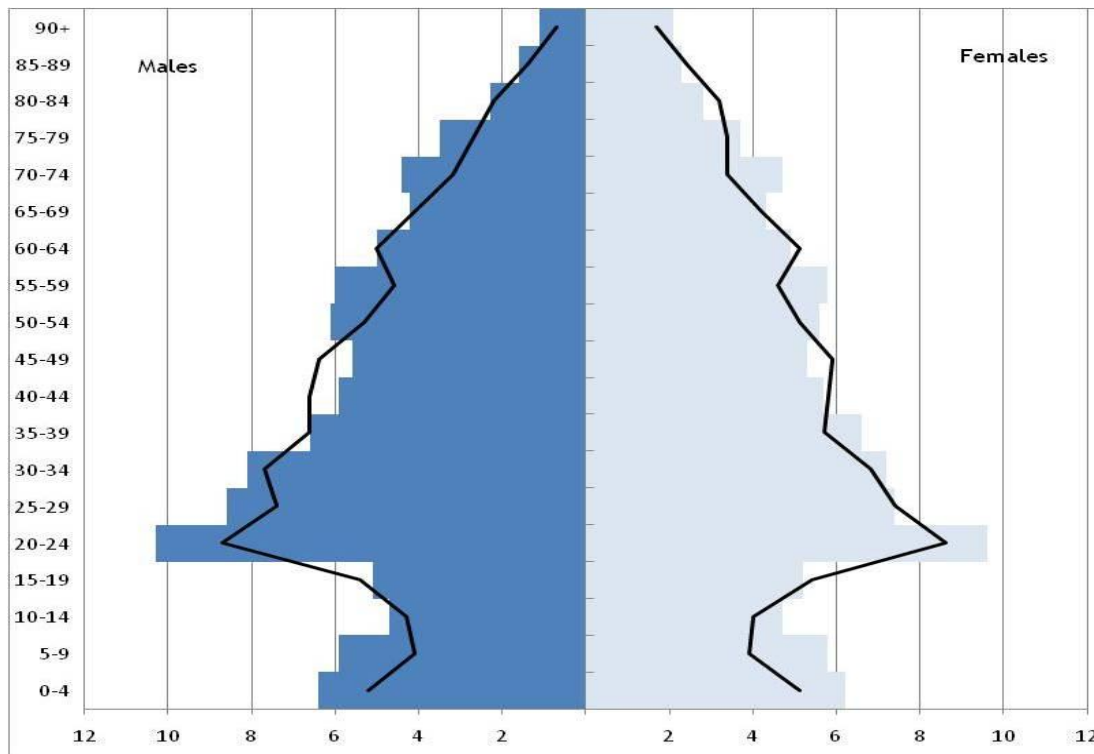
2.4 Figure 7 shows the Mid-Year Estimates from 1991 to 2010 and the interim 2011-based population projections through to 2021. Despite the fluctuations in the mid-year estimates the general pattern shows that the past rate of population growth is expected in the future. This set of population projections suggests a higher level of growth than previous sets of projections that reflects the population increase in the 2011 Census.

**Figure 7: Population 1991 to 2021**



Source: Mid-Year Estimate (1991-2010) and 2008-based sub-national population projections (2008-2033), ONS, Crown Copyright

Figure 8: Bournemouth Population at 2011 and 2021 (in thousands)



2011 Population based on Mid-Year Estimate  
 Population as at 2021  
 Source: Interim 2011-based sub-national population projections, ONS, Crown Copyright

2.5 The above population pyramid helps show the pattern of growth in the population between 2011 and 2021. The chart illustrates that there are several age cohorts expected to experience a fall in population. In particular the 40-49 aged population is expected to experience a reduction in numbers. This reflects the smaller population numbers in 2011 in the 30-39 year old cohort. In the period since 2002 there has been an increase in the number of births both nationally and locally and this is reflected in the larger number in the under 10s cohort compared with those aged 10-14. However care must be taken when looking at those aged under 10 as mentioned in paragraph 2.3 as the methodology used by ONS may well have led to an over-estimation of this population particularly in the first five years of the projection. The changes in population reflect both historical trends as well as more recent trends relating to mortality, fertility and migration. For example the 2011 data reveals the larger population within the 60-64 cohorts as a result of the post-war baby boom. This trend would be evident in all areas across the country.

2.6 The population spike within the 20-24 cohorts is peculiar to Bournemouth and other university towns and reflects the student population. The student population can cause some difficulties when producing population projections, due to the use of migration data. Migration data is based on patient records and movements to and from Bournemouth are recorded based on when patients register or leave a

surgery. A potential weakness in this method is that some moves will not be picked up on this system. When people move around the country it may take some time for them to re-register with a doctor in which case they will not be counted as a move. This issue tends to affect young men particularly because some do not re-register. It can be particularly evident in areas that have a high proportion of students. Students leaving their place of study and moving on to different areas are less likely to be recorded as outward internal migrants in the GPs' registers and may therefore be inappropriately contributing to the projected future populations for certain areas. While not a significant impact over the short term this effect may be compounded over the twenty-five year period of the projection. As previously mentioned this has now been addressed with the use of HESA data within the population projections.

- 2.7 Within the older population in 2011 the larger female population compared to males was due to longer life expectancy among females and within the very old age cohorts due to those males who died during World War Two.

#### Policy-based population projections

- 2.7 Population projections for Bournemouth, Dorset and Poole are prepared jointly by the three strategic authorities for policy planning purposes. The projections are produced using the PopGroup software originally developed by Bradford City Council and Andelin Associates and currently administered by the LGA. They are constrained to Mid-Year Estimates and the latest housing numbers as set out in current planning documents.
- 2.8 The locally derived projections differ from the trend-based projections primarily due to the application of house building rates which constrain the population according to the number of new dwellings available each year. The projection model adjusts the migrant flows until the housing constraint is met.
- 2.9 Because these projections are locally produced they can be adjusted to reflect local circumstances more easily than the ONS set of projections. With trend-based projections the population is often expected to grow at a consistent rate, which may not be realistic as other factors, such as the number of dwellings likely to be built, constrain population growth. Trend-based projections are unable to account for changes that have not been reflected in past trends. For example past improvements in mortality rates are not necessarily going to continue into the future at the same rate, and other factors, such as obesity and medical constraints, may even reverse the trend.
- 2.10 A new set of policy projections will be produced in due course. These will be based on the latest Mid-Year Estimates. However it would be unwise to produce these projections until the revised back dated

statistics are released. These will take into account the 2011 Census estimates have been released to ensure past trends are reflected in the projections.

### Household Projections

3.0 As well as population projections the government also produces household projections. Like the population projections they are trend-based and indicate what will happen if past demographic trends continue. The latest national household projections were published in November 2010 by the Department for Communities and Local Government. The projections are linked to the 2008-based Sub-National Population Projections and cover the years 2008 to 2033. **Please note** that the 2011 Census estimate reveals that there were 82,374 households with at least one resident in Bournemouth. This is substantially higher than the 2008-based projection figure for 2011 and therefore the projections shown below are for information only and shouldn't be used without advice.

**Table 6: 2008-based Sub Regional Household Projections**

	(thousands)								
	2008	2009	2010	2011	2016	2021	2026	2031	2033
Bournemouth UA	73	73	73	74	75	78	80	83	84
Poole UA	61	61	61	62	64	67	69	72	73
DCC Dorset	177	178	179	180	187	195	204	212	215
Christchurch	21	21	22	22	23	24	25	26	26
East Dorset	38	38	38	39	40	42	44	46	46
North Dorset	27	27	27	28	29	30	32	33	33
Purbeck	20	20	20	20	21	22	23	23	24
West Dorset	43	43	44	44	46	48	51	53	54
Weymouth & Portland	28	28	28	28	29	30	30	31	32
South West	2,241	2,264	2,291	2,319	2,460	2,605	2,743	2,874	2,923
South East	3,480	3,511	3,550	3,589	3,791	3,999	4,201	4,394	4,467
England	19,490	19,653	19,860	20,070	21,148	22,239	23,273	24,249	24,613

Source: 2008-based sub-regional household projections, CLG

## Population Sources including websites

Mid-2011 Population Estimates, ONS. Available on the ONS website at:  
<http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-england-and-wales/mid-2011--2011-census-based-/stb---mid-2011-census-based-population-estimates-for-england-and-wales.html>

Local figures are also available on the council website at:  
<http://www.bournemouth.gov.uk/PeopleLiving/BournemouthStatistics/Themes/PopulationMigration/Population/PopulationEstimates.aspx>

Interim 2011-based sub-national population projections, ONS.  
Available on the ONS website at: <http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/Interim-2011-based/stb-2011-based-snpp.html>

Vital Statistics on births and deaths, ONS. Available on the ONS website at <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-276693> <http://www.ons.gov.uk/ons/rel/vsob1/death-reg-sum-tables/2011--final-/index.html>

Local figures are available on the council website at:  
<http://www.bournemouth.gov.uk/PeopleLiving/BournemouthStatistics/Themes/PopulationMigration/Population/Population.aspx>

Internal Migration statistics are available on the ONS website at:  
<http://www.ons.gov.uk/ons/rel/migration1/internal-migration-by-local-authorities-in-england-and-wales/2010-2011/internal-migration-by-local-authorities-in-england-and-wales-in-the-year-ending-june-2011.html>

International migration is available at:  
<http://www.ons.gov.uk/ons/rel/migration1/migration-statistics-quarterly-report/august-2012/msqr.html>

Local information is available at:  
<http://www.bournemouth.gov.uk/PeopleLiving/BournemouthStatistics/Themes/PopulationMigration/Migration/Migration.aspx>

2008-based sub-national household projection statistics are available from the DCLG site at:  
<http://www.communities.gov.uk/publications/corporate/statistics/2033household1110>